

CHAPTER II PRELIMINARY DESIGN

MINIMUM RURAL DESIGN STANDARDS - RESURFACING, RESTORATION & REHABILITATION (3R) PROJECTS

- (1) Increase to 12 ft. [3.6 m] on designated truck routes and other roads where trucks are 10 percent or more of average daily traffic.
- (2) Increase 1 ft. [0.3 m] when trucks are 10 percent or more of average daily traffic. Minimum median shoulder width shall be 3 ft. [0.9 m] for divided pavement.
- (3) Increase 2 ft (0.6 m) when lane width is 12 ft. [3.6 m].
- (4) If design traffic is less than 1700 vehicles per day, existing horizontal curves of 40 mph [70 km/h] design, with proper superelevation, may be retained if advisory speed signs are placed according to the Manual on Uniform Traffic Control Devices (MUTCD).

If design traffic exceeds 1700 vehicles per day, consider realigning curves of less than 45 mph [70 km/h] design if warranted by accident studies and realignment is feasible and economically justified. Existing curves of 45 mph [70 km/h] design, with proper superelevation, may be retained if advisory speed signs are placed according to the MUTCD.

- (5) Culvert headwalls located beyond minimum design shoulder width may remain in place. Any headwalls located within the clear zone limits must be shown as a design exception. Mailbox installations are treated as described in Section 4-05.
- (6) Retain current fill slopes, except at locations where it is determined by an analysis of accidents or other circumstances that flatter slopes are warranted and feasible.
- (7) Refer to Subsection 4-09.7(2) for upgrading guardrail criteria.
- (8) Bridges must be capable of carrying legal loads without posting. Bridges which are located within the state's commercial zones and are posted for 40 tons [36 Mg] or greater will be acceptable.

Minimum bridge width will equal the width of approach lanes for design traffic less than 1700 ADT and the width of approach lanes plus 2 ft. [0.6 m] for design traffic greater than 1700 ADT.

The following railing types: safety barrier curbs, three beam bridge rails and 6 in. [150 mm] brush curbs (with modifications if necessary) will be acceptable for retention on 3R projects.

Exceptions may be considered for the retention of other railing types on a case-by-case basis. Considerations will be based on traffic, posted speed, accident history and type of existing railing. Use-in-place bridge railings shall comply with AASHTO standards for railing heights.

Standard bridge anchor sections and Type A crashworthy end terminals shall be provided at bridge ends.

Bridges which are programmed for major rehabilitation or replacement may be allowed to remain-in-place as is, unless narrower than the traveled way. Any bridges meeting this criteria must be shown as a design exception.

3R Minimum Design Standards (Rural) - Footnotes